

Abstract:

A process is disclosed for recovering polyamide material from post-industrial and post-consumer products containing the polyamide material and insoluble materials. The process includes the steps of: (a) contacting the post-industrial and post-consumer products with a suitable solvent in a reactor; (b) dissolving and partially depolymerizing the polyamide material in the solvent to form a solution by operating the reactor at a predetermined temperature and pressure and for a time sufficient to decrease the average molecular weight of the depolymerized polyamide to less than 90% of the initial molecular weight; (c) separating the insoluble material from the solution; and (d) recovering the depolymerized polyamide from the separated solution. The process may also include the step of repolymerizing the depolymerized polyamide.